APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,698	01/17/2002	Akinari Todoroki	111687	3599

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EXAMINER
NGO, CHUONG D

ART UNIT	PAPER NUMBER
2193	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/046,698	TODOROKI ET AL.
	Examiner	Art Unit
	Chuong D. Ngo	2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *29 August 2005*.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,2,4,5,9,10,12 and 13* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,2,4,5,9,10,12 and 13* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some * c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/08/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1,2,4 and 5 stand rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claims 1,2,4 and 5 recites a method of computing values in a time domain of a stream of

values in a frequency domain. In order for such a computation method to be statutory, the claims

must includes either a step that results in a physical transformation outside the computer or a

limitation to a practical application, or requires a specific computer to implementing the claimed

process. However, it is clear from claims 1-5 that the claims merely recite steps of data

manipulation and computation. The input are numbers and output are numbers which are not a

result of a physical transformation. The claim fails to recite any step that results a limitation to a

practical application, or requires a specific computer to implementing the claimed process. The

recitation "a filter method for decoding a digital signal" mentioned merely in the preamble is

clearly an intended field of use, and thus fails to render the invention statutory. Accordingly,

claims 1-5 are clearly directed to a non-statutory subject matter.

2.   Claims 1,2,4,5,9,10,12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

As per claim 1, it is unclear what it means by the recitation "the predetermined data

stored in the second step in processing the data block in the first step", lines 12-24. It is also

unclear what it means by the recitation "switching a processing method for generating the digital signal", lines 16-17. Claim 11 also has the same problem.

3.   Claims 1,5,9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission of prior art disclosed in figures 9-15 in view of Liu et al. (6,119,080)

As per claims 1 and 9, the admitted prior art in figure 12 discloses a method for use in decoding a digital signal from a frequency domain to a time domain, including a first step of multiplying an input data stream (X) by an inverse MDCT matrix (IMDCT) to acquire an output data stream (D3), a second step of storing predetermining data in each block of output data stream into a storage (262a), and a third step of generating the digital signal (D4) in the time domain on the basis of each data block acquired at the first step and the predetermined stored at the second step. The admitted prior art also suggest the determination of side information and performing a corresponding processing in accordance with the side information (see page 4, line 23-26 and page 7, lines 13-61). It is noted that the admitted prior art does not decompose inverse MDCT matrix into a sparse matrix. However, Liu et al disclose an implementation of an inverse MDCT by decomposing MDCT matrix into sparse matrices (corresponding to Sub-DCT stage and combination stage, see figures 4 and 5). Thus, it would have been obvious to a person of ordinary skill in the art to implement the inverse MDCT in the admitted prior art in figure 12 by decomposing MDCT matrix into sparse matrices as taught by Liu et al because it has good features in regularity and complexity in architecture and reduces the computation.

As per claims 5 and 13, Liu et al. also disclose DCT-IV transformation matrix (col. 4, eq. (3), and figure 5).

4.   Applicant's arguments filed 08/29/2005 have been fully considered but they are not

persuasive.

Regarding the rejection under 35 U.S.C. 101, it is respectfully submitted that claims

1,2,4 and 5 merely recites data calculation and manipulation steps for computing values in a time

domain of a stream of values in a frequency domain. The claims do not recite any step that

results in a limitation to a practical application as applicant argued.

Regarding the rejection under 35 U.S.C. 103(a), it is respectfully submitted that . The

admitted prior art does suggest on page 4, line 23-26 and page 7, lines 13-61, the determination

of side information and performing a corresponding processing in accordance with the side

information.

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

6.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chuong D. Ngo whose telephone number is (571) 272-3731. The

examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chuong D Ngo
Primary Examiner
Art Unit 2193

11/22/2005